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09/873,817	06/04/2001	Gerald Oberschmidt	450117-03373	4577

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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2684	6

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/873,817	OBERSCHMIDT ET AL.	
	Examiner	Art Unit	
	Raymond S Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 - 19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 - 8 and 10 - 19 is/are rejected.

7)☒ Claim(s) 9 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 15 is objected to because of the following informalities: Claim 15 is an independent claim but it is written as depending on the Claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 15, 16, 18, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Lovinggood et al. (US 6,697,603 B1).

Regarding Claim 15, Lovinggood teaches a wireless data communication system for direct communication between mobile terminals in an indoor environment characterized by at least one active reflector and at least two mobile terminals with transceivers for direct wireless through the active reflector (Column 3 lines 1 – 2, Column 11 lines 13 – 16, Column 11 lines 28 – 30, Column 11 lines 31 – 32, the cellular

or PCS phones are mobile terminals that transmit and receive information, the mobile terminals of a Bluetooth network transmit and receive data to and from one another via the repeater thus this is an inherent characteristic).

Regarding Claim 16, Lovinggood teaches all of the claimed limitations recited in Claim 15. Lovinggood further teaches antennas that are connected to the transceivers of mobile terminals (Column 3 lines 1 – 2, the cellular or PCS phones, which are mobile terminals, have antennas through which said phones can transmit and receive information thus this is an inherent characteristic).

Regarding Claim 18, Lovinggood teaches all of the claimed limitations recited in Claim 15. Lovinggood further teaches at least one further active reflector (Column 11 lines 7 –12).

Regarding Claim 19, Lovinggood teaches all of the claimed limitations recited in Claim 15. Lovinggood further teaches at least two active repeaters comprising antennae for communicating signals from and to a first active reflector to and from a second active reflector (Column 11 lines 7 – 12).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 – 3, 5, 7, 8, and 11 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovinggood et al. (US 6,697,603 B1) in view of Knapp (EP 0515728 A2).

Regarding Claim 1, Lovinggood teaches an active reflector for use in indoor wireless data communication systems (Column 2 lines 14 –15, Column 11 lines 13 – 16, Column 11 lines 31 – 32) comprising receiving means for receiving signals from a first mobile terminal and transmitting means for transmitting the received signals to a second mobile terminal in an omni-directional way (Column 1 lines 22 – 26, Column 2 lines 58 – 65, Column 11 lines 13 – 16, Column 11 lines 28 – 30, the repeater can be used in an ad hoc system of mobile terminals, the broadcast antenna transmits the received signals in an omni-directional way) , so that a direct communication with high data rates between mobile terminals in an indoor environment is enabled (Column 11 lines 13 – 16, Column 11 lines 25 – 26, LMDS has high data rates thus the repeater can operate in high data rate environments).

Lovinggood does not specifically teach an active reflector that is adapted to be mounted above the mobile terminals in the indoor environment to ensure essentially a line of sight connection between the active reflector and each mobile terminal.

Knapp teaches an active reflector that is adapted to be mounted above the terminals in the indoor environment to ensure essentially a line of sight connection between the active reflector and each terminal (Figure 1, Column 3 lines 15 - 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the repeater orientation taught above in Knapp in the

repeater system of Lovinggood for the purposes of creating reliable and optimal wireless links for the mobile terminals in the indoor environment.

Regarding Claim 2, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Lovinggood further teaches an active reflector characterized in that said active reflector comprises means between said receiving means and said transmitting means for processing received signals (Figure 2).

Regarding Claim 3, Lovinggood teaches all of the claimed limitations recited in Claim 2. Lovinggood further teaches signal processing means that comprises at least one gain block between the receiving means and the transmitting means (Figure 2).

Regarding Claim 5, Lovinggood teaches all of the claimed limitations recited in Claim 2. Lovinggood further teaches a signal filtering means for filtering the received signals or the received and amplified signals (Figure 2, Column 2 lines 19 – 20, Column 3 lines 33 – 35).

Regarding Claim 7, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Lovinggood further teaches an active reflector characterized by a first antenna connected to the receiving means RX, and a second antenna connected to the transmitting means TX (Figure 2).

Regarding Claim 8, Lovinggood teaches all of the claimed limitations recited in Claim 7. Lovinggood further teaches an active reflector characterized in that the first and the second antenna have a uniform coverage pattern (Column 11 lines 13 – 16, Column 11 lines 28 – 30, Column 11 lines 31 – 32, antennas with uniform coverage is an inherent characteristic of indoor wireless networks and ad hoc networks (Bluetooth)).

Regarding Claim 11, Lovinggood teaches all of the claimed limitations recited in Claim 2. Lovinggood further teaches an active reflector characterized in that the means for signal processing comprises a frequency translating means for changing the received signal frequency to another frequency, and transmitting the signal at the changed frequency to the mobile terminals (Figure 2, Column 4 lines 19 – 34, Column 5 lines 3 – 42).

Regarding Claim 12, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Lovinggood further teaches an active reflector characterized by means for communicating data with at least one further active reflector (Column 11 lines 7 –12).

Regarding Claim 13, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Knapp further teaches an active reflector characterized in that the active reflector is adapted to be power supplied by a power outlet for an indoor lamp (Figure 1, Column 3 lines 15 – 19).

Regarding Claim 14, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Knapp further teaches an active reflector characterized in that the active reflector is adapted to be integrated into a usual lamp (Figure 1, Column 3 lines 15 – 19, the fact that the repeaters have Edison sockets allows said repeaters to be integrated into a usual lamp).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lovinggood et al. (US 6,697,603 B1) in view of Knapp (EP 0515728 A2) and in further

view of Komara et al. (US 6,339,694 B1).

Regarding Claim 4, Lovinggood teaches all of the claimed limitations recited in Claim 3. Lovinggood in view of Knapp does not specifically teach an active reflector characterized in that the gain block comprises more than one sub-gain block, whereby at least one of the sub-gain blocks can be switched off.

Komara teaches an active reflector characterized in that the gain block comprises more than one sub-gain block, whereby at least one of the sub-gain blocks can be switched off (Column 5 lines 56 – 64, the overall gain of the output amplifier, which comprises sub gain blocks, is adjusted through the switching on/off of said sub gain blocks thus this is an inherent characteristic).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adjustable gain method taught in Komara in the repeater system of Lovinggood in view of Knapp such that said repeater system can effectively compensate for the propagation loss suffered by the signals that travel from the mobile devices to said repeater system.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lovinggood et al. (US 6,697,603 B1) in view of Knapp (EP 0515728 A2) and in further view of Simon (5,570,354).

Regarding Claim 6, Lovinggood in view of Knapp teaches all of the claimed limitations recited in Claim 1. Lovinggood in view of Knapp does not specifically teach

an active reflector characterized by one common antenna connected to the receiving means and the transmitting means.

Simon teaches an active reflector characterized by one common antenna connected to the receiving means and the transmitting means (Figures 4 and 5, the repeater is (40)).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the common antenna method taught in Simon in the repeater system of Lovinggood in view of Knapp for the purposes of reducing the overall size of said repeater system thus creating a repeater system that is lighter in weight and occupies a smaller space.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lovinggood et al. (US 6,697,603 B1) in view of Knapp (EP 0515728 A2) and in further view of Fischer et al. (US 6,360,075 B1).

Regarding Claim 10, Lovinggood teaches all of the claimed limitations recited in Claim 7. Lovinggood in view of Knapp does not specifically teach an active reflector characterized in that the first and the second antenna are antennae with different types of linear polarization

Fischer teaches an active reflector characterized in that the first and the second antenna are antennae with different types of linear polarization (Column 4 lines 59 – 64).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the linear polarization method taught in Fischer in the repeater system of Lovinggood in view of Knapp for the purposes of providing optimal isolation between the two antennas of said repeater system without reducing theability of said repeater system to extend the range of communications.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lovinggood et al. (US 6,697,603 B1) in view of Shoki (5,894,598).

Regarding Claim 17, Lovinggood teaches all of the claimed limitations recited in Claim 16. Lovinggood does not specifically teach that the antennas of the transceivers of the mobile terminals are high gain antennas.

Shoki teaches the antennas of the transceivers of the mobile terminals are high gain antennas (Column 11 lines 5 – 9, the antenna has a high gain in order to receive high capacity and high speed signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the high gain antennas taught in Shoki on the mobile terminals that communicate with the repeater system of Lovinggood such that said mobile terminals can effectively receive the high capacity and high speed signals in the LMDS system that comprises said repeater system.

Allowable Subject Matter

10. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding Claim 9, Lovinggood in view of Knapp and in further view of Fischer teaches an active reflector characterized in that the first and the second antenna are circularly polarized antennas with opposite directions of polarization but the prior art of record fails to show specifically show a first and second antenna that are circularly polarized antennas with the same the direction of polarization.

Conclusion

11. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

NAY MAUNG
SUPERVISORY PATENT EXAMINER